

Commercial Aviation

A REMARKABLE DORNIER BOAT

Four Diesel Engines in Two Tandem Pairs : Sponsons Replaced by Retractable Floats

A NEW contribution to the team of German aircraft available for North Atlantic service has been made by the Dornier four-engined flying boat demonstrated on the Müggelsee in Berlin last week. The machine will be operated by Lufthansa. Marked refinement in design is evidence in the interests of performance and range. The top speed is 208 m.p.h. and maximum cruising speed 192 m.p.h.; the cruising radius is 5,600 miles.

A gull-wing layout has been adopted, and the engines are arranged tandem fashion in two pairs as in our Short Singapore. The lateral sponsons which for so long have characterised the Dornier flying boats have been eliminated and replaced by floats which are laterally retractable into the wing.

Despite her size the new boat may be launched by catapult and could, under these conditions, carry four passengers and a ton of mails non-stop from Lisbon to New York.

The wing itself is of trapezoidal shape with rounded tips, and is built in three portions, the centre one being the V-shaped centre section built integral with the hull. Apparently the double wing arrangement has been dropped and the flaps seem quite normal.

The hull is of the two-step type and is divided into eight water-tight compartments. Aft of the mooring compartment in the bow is a hold for mail and freight, followed by accommodation for a crew of four, the wireless and navigation rooms and a second mail compartment.

The tail unit has a single fin and rudder and a braced tail-plane. The surfaces are balanced and are fitted with trimming tabs.

Four water-cooled Junkers Jumo 205 heavy-oil engines of 600 h.p. each are specified. The front airscrews are driven in the normal fashion, but to obtain good aerodynamic form



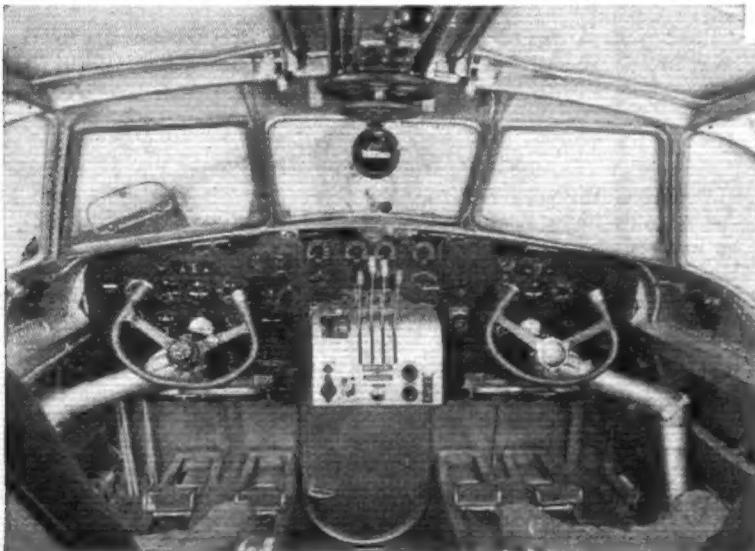
Designed expressly for the North Atlantic service, the latest four-engined Dornier flying boat, the gull-winged Do. 26, incorporates many unusual features. Lateral sponsons, characteristic of Dornier boats, have been replaced by retractable wing floats.

and the necessary wing clearance the rear propellers have elongated shafts. A remarkable feature is the ability to raise the rear power plants through an arc of 10 degrees to protect the propellers from the spray during take-off.

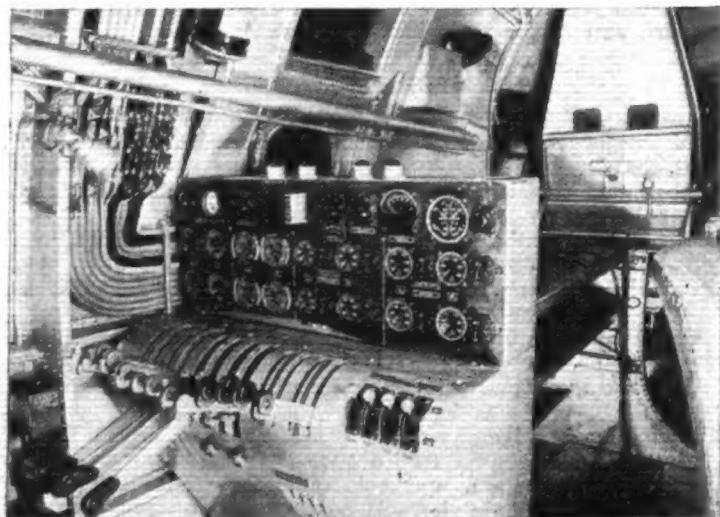
All fuel is carried in the hull, but there is still space for 80,000 letters.

It is claimed that demonstration flights have shown that the machine will fly on two engines. All four power units, incidentally, are accessible during flight. Data are:

| | | | | | |
|-------------------------------|-----|------------------|----------------|-----|-------------------|
| Span | ... | 98ft. 5in. | Wing loading | ... | 32.91 lb./sq. ft. |
| Length | ... | 80ft. 4in. | Engine loading | ... | 18.29 lb./h.p. |
| Height | ... | 22ft. 5in. | Maximum speed | ... | 208 m.p.h. |
| Wing area | ... | 1,291.67 sq. ft. | Cruising speed | ... | 192 m.p.h. |
| Weight (empty) | ... | 22,487.20 lb. | Landing speed | ... | 68 m.p.h. |
| Useful load | ... | 21,605.30 lb. | Range | ... | 5,600 miles. |
| Total weight (catapult start) | ... | 44,092.40 lb. | | | |



With a separate engineer's control panel, it has been possible to simplify the layout of the new Dornier's instrument board. Note the twist-grips on the spectacle controls and the accessibility of the D/F loop gear.



On the Dornier Do. 26 the engineer sits aft, in front of a comprehensive instrument panel, thereby relieving the pilots of a good deal of instrument-watching and engine control adjustment. The engineer has access to all four engines.